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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,336	01/11/2006	Tomoko Aoki	2003JP316	9134

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AZ ELECTRONIC MATERIALS USA CORP.  
ATTENTION: INDUSTRIAL PROPERTY DEPT.  
70 MEISTER AVENUE  
SOMERVILLE, NJ 08876

EXAMINER
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NILAND, PATRICK DENNIS

ART UNIT	PAPER NUMBER
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1714

MAIL DATE	DELIVERY MODE
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05/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/564,336

Applicant(s)

AOKI ET AL.

Examiner

Patrick D. Niland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, and 4-11 is/are rejected.
- 7) ☐ Claim(s) 3 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

1. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The instant claims refer to "general formulae" or "general formula". The claims then depict structures labeled with "[Chemical formula...]" and a number in "()". It is unclear which formula number, if any, is intended by the "general formula" or "general formulae" notation since there is not antecedent basis for this language. The dual numbering of the recited structures further renders it unclear what formulae are intended.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-7, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5459114 Kaya et al..

Kaya discloses the instantly claimed invention at the abstract of which the polyorgano(hydro)silazanes fall within the scope of the instantly claimed polyalkylsilazane; column 4, lines 1-67, particularly 22-25 and 28-42; column 5, lines 22-32 which encompasses

adding the instantly claimed phosphorous compounds to the instantly claimed polyalkylsilazanes; column 7, lines 45-67, which encompass the instantly claimed polyalkylsilazanes; column 8, lines 1-67, particularly lines 27-36, of which the elements of group VA encompass phosphorous compounds; column 9, lines 1-67, particularly 20-45 which requires the instantly claimed composition of claim 1 to be formed. The compositions are disclosed as being used in solutions containing solvents, e.g. column 12, lines 7-13 and the exemplified polysilazanes are in solution in organic solvent to give them lowered viscosities. At the lower polysilazane molecular weights the moieties of column 9, lines 20-35 would imply the amounts of the compounds of column 9, lines 25-45 in the amounts of the broad range of the instant claim 4. The polyorganosilazanes of the patentee fall within those of the instant claims 5-7. The beginning temperature of column 10, lines 49-61 falls within the scope of the prebaking of the instant claim 11 and the upper temperatures achieved fall within the scope of the baking of the instant claim 11.

5. Claims 1-2, 4-7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5459114 Kaya et al..

Kaya discloses the instantly claimed invention at the abstract of which the polyorgano(hydro)silazanes fall within the scope of the instantly claimed polyalkylsilazane; column 4, lines 1-67, particularly 22-25 and 28-42; column 5, lines 22-32 which encompasses adding the instantly claimed phosphorous compounds to the instantly claimed polyalkylsilazanes; column 7, lines 45-67, which encompass the instantly claimed polyalkylsilazanes; column 8, lines 1-67, particularly lines 27-36, of which the elements of group VA encompass phosphorous compounds; column 9, lines 1-67, particularly 20-45 which requires

the instantly claimed composition of claim 1 to be formed. The compositions are disclosed as being used in solutions containing solvents, e.g. column 12, lines 7-13 and the exemplified polysilazanes are in solution in organic solvent to give them lowered viscosities. At the lower polysilazane molecular weights the moieties of column 9, lines 20-35 would imply the amounts of the compounds of column 9, lines 25-45 in the amounts of the broad range of the instant claim 4. The polyorganosilazanes of the patentee fall within those of the instant claims 5-7. The beginning temperature of column 10, lines 49-61 falls within the scope of the prebaking of the instant claim 11 and the upper temperatures achieved fall within the scope of the baking of the instant claim 11.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the combinations of ingredients of the instant claims as the composition of Kaya because Kaya encompasses such combinations of ingredients and they would have been expected to give the coating and ceramic properties described by Kaya.

5. Claims 1-2 and 4-11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 04-164923 Takatsu et al., translation provided and referenced below.

Takatsu discloses the instantly claimed inventions at page 2, claim 1 of which the P/Si ratio encompasses the instantly claimed amount of P of claims 8 and 10 and the amount of claim 4 considering the atoms required of the disclosed structures involved and the molecular weights of the described moieties, page 3, particularly the phosphorous compounds I-V disclosed there which fall within the scope of the phosphorous compounds of the instant claims, page 4, claim 3 of which formula VI encompasses the polyalkylsilazanes of the instant claims, claim 4, claim 5 which falls within the scope of the instant claim 5 film, page 5 of which the

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polyorgano(hydro)silazane falls within the scope of the instantly claimed polyalkylsilazane and the remainder of the page, page 6 in its entirety, page 7, particularly the phosphorous compounds I-V, page 8 in its entirety, pages 9-25 in their entirety, particularly the formulae described therein, more particularly the alkyl substituted polysilazanes of pages 23-25, page 27, particularly lines 1-8 which encompass the use of solvents, page 28, page 29, particularly the first full paragraph which discloses using solvents, page 31, lines 4-5, which falls within the scope of the prebaking temperature of claim 11 and page 33, line 18- page 34, line 13, which falls within the scope of the baking temperatures of the instant claim 11, and the remainder of the document.

Since the composition of the reference is that of the instant claims, it is expected to have the permittivity of the instant claim 9 due to its similar usage.

6. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-164923 Takatsu et al., translation provided and referenced below.

Takatsu discloses the instantly claimed inventions at page 2, claim 1 of which the P/Si ratio encompasses the instantly claimed amount of P of claims 8 and 10 and the amount of claim 4 considering the atoms required of the disclosed structures involved and the molecular weights of the described moieties, page 3, particularly the phosphorous compounds I-V disclosed there which fall within the scope of the phosphorous compounds of the instant claims, page 4, claim 3 of which formula VI encompasses the polyalkylsilazanes of the instant claims, claim 4, claim 5 which falls within the scope of the instant claim 5 film, page 5 of which the polyorgano(hydro)silazane falls within the scope of the instantly claimed polyalkylsilazane and the remainder of the page, page 6 in its entirety, page 7, particularly the phosphorous compounds

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I-V, page 8 in its entirety, pages 9-25 in their entirety, particularly the formulae described therein, more particularly the alkyl substituted polysilazanes of pages 23-25, page 27, particularly lines 1-8 which encompass the use of solvents, page 28, page 29, particularly the first full paragraph which discloses using solvents, page 31, lines 4-5, which falls within the scope of the prebaking temperature of claim 11 and page 33, line 18- page 34, line 13, which falls within the scope of the baking temperatures of the instant claim 11, and the remainder of the document.

Since the composition of the reference is that of the instant claims, it is expected to have the permittivity of the instant claim 9 due to its similar usage.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the combinations of ingredients of the instant claims as the composition of Takatsu because Takatsu encompasses such combinations of ingredients and they would have been expected to give the coating and ceramic properties described by Takatsu.

7. Claims 3 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

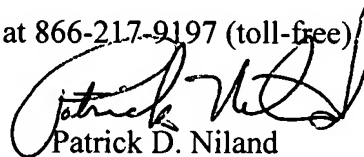
The prior art does not describe these inventions nor provide a suggestion to modify the prior art inventions to read on these inventions.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland  
Primary Examiner  
Art Unit 1714